

Product number: K7-547
Product name: SeTau 405-NHS

General Data

- Molecular Mass:** 548.97
- Solubility:** water, alcohol, DMF, DMSO
- Insoluble:** acetone, chloroform, toluene
- Storage:** Store in absence of light, desiccated and refrigerate

Description

Hydrophilic, amine-reactivelabel containing one NHS-ester group.

Applications

- Covalent labeling of proteins, amino-modified DNA, amino-modified oligonucleotides and lipids.
- Fluorescence lifetime assays.
- Fluorescence polarization-based assays of high molecular weight antigens.

Advantages

- Highly fluorescent label for proteins and oligos.
- **Quantum yield** (Q.Y.) ~ 80 % (water)
- **Long fluorescence lifetime** of 9 ns in water
- Perfectly suited for excitation with the 380-nm and 404-nm diode lasers
- **Large Stokes' shift of over 100 nm**
- High fundamental polarization $R_0 = 475$ mP
- Highly soluble in aqueous buffer (500 mg/L at 20°C)

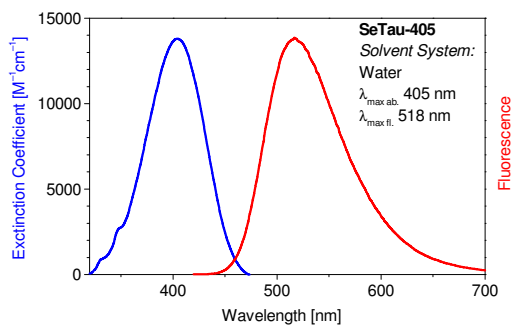
Spectral Data

Sample	Dye-to-protein Ratio	Solvent System	Absorption max. [nm]	Extinction Coefficient [M ⁻¹ ·cm ⁻¹]	Fluorescence ¹ max. [nm]	Q.Y. [%]	Luminescence Lifetime [ns]			Polarization
							τ_1	τ_2	Mean τ	
Free dye	—	ethanol	391	15,000	498	55				
Free dye	—	water	405	13,800	518	80	—	—	9.3	
BSA conjugate 1	3	pH 7.4	406		518		2.4 (10%)	8.2 (90%)	7.6	0.27
BSA conjugate 2	8	pH 7.4	406		518					
IgG conjugate 1	0.9	pH 7.4	405		518	15			8.9	
IgG conjugate 2	7.8	pH 7.4	405		518	19			8.4	

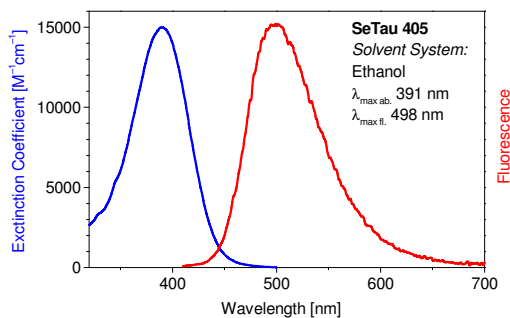
¹Excitation at 400 nm

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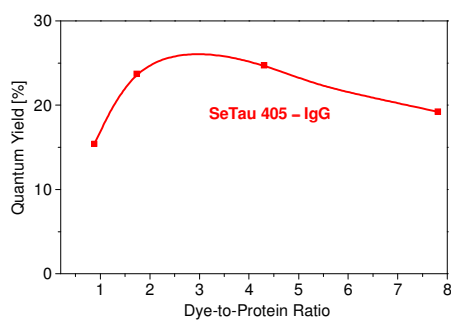
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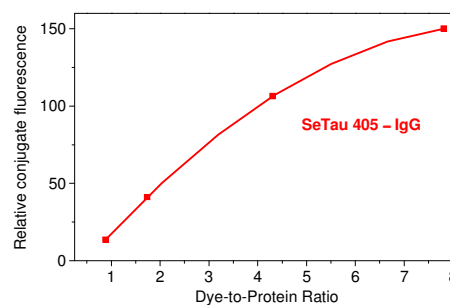
Absorption and emission spectra of **SeTau 405** in water



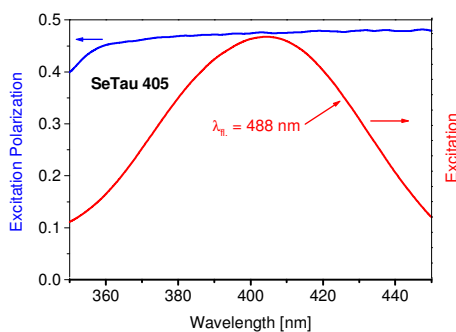
Absorption and emission spectra of **SeTau 405** in ethanol



Quantum yield vs. dye-to-protein ratio of **SeTau 405 - IgG conjugates** in phosphate buffer (pH 7.4)



Relative fluorescence (Q.Y. x D/P ratio) of **SeTau 405 - IgG conjugates** in phosphate buffer (pH 7.4)



Excitation polarization and excitation spectra of **SeTau 405-NHS** in water.
 Fundamental polarization $R_0 = 475 \text{ mP}$ when completely immobilized